**MOLD: HEALTH & TRAINING IMPLICATIONS FOR WORKER POPULATIONS**
**Denny Dobbin**
**Society of Occupational Safety and Health**

**Speaker Presentation**

NIEHS WETP has begun studying the emerging issue of mold remediation as it applies to the development of guidelines for the protection and training of remediation workers. This panel discussion examined current microbial remediation guidelines, work practices, training needs and curricula development. Denny Dobbin introduced this panel discussion by outlining some of the upcoming mold related activities. He explained that there are guidelines coming out from AIHA, ASSE, and other organizations. In addition, they are hoping to get consensus from Clinicians on health effects of mold exposure. In January there will be worker training workshop and a stawperson document drafted following this training. After both workshops in 2004, there will be a conference that will have broader participation.

**MOLD: CURRENT GUIDELINES**
**Christopher D'Andrea, MS, CIH**
**New York City Department of Health and Mental Hygiene**

**Speaker Presentation**

Christopher D'Andrea addressed the current status of available guidance documents concerning microbial contamination in buildings and focused on the New York City Department of Health and Mental Hygiene's Guidelines on Assessment and Remediation of Fungi in Indoor Environments. Workers who are affected by mold exposure include remedial workers, maintenance/building engineers, agriculture workers (much data comes from these workers but the exposures are typically much greater than to other workers), office workers, and inspectors.

The potential health impacts of mold exposure are hypersensitivity diseases such as hypersensitivity pneumonitis and possibly asthma. In addition, it can have toxic effects. Dead mold does not mean that it isn't toxic or allergenic therefore their guidelines call for mold removal and cleaning surfaces versus killing mold.

The goals for the remediation are to remove or clean the contaminated materials, contain contaminants to the work area, protect workers from exposures, and always correct the cause of water accumulation. The 1993 New York City DOH Guidelines on Stachybotrys were the first guidelines, which recommended a half-face respirator. These were followed by the 1995 Health Canada Guidelines, which expanded the NYC guidelines and the 1999 ACGIH Bioaerosols guidelines. In 2000 NYC DOHMH revised their guidelines on fungi, which defined small, medium, and large jobs in terms of square footage. These were followed by a 2001 US EPA Guideline of Fungi and 2003 OSHA Advisory-both of these used the NYC guidelines delineations on defining job size by square footage. In addition, ASSE, ACGIH and NYC DOHMH are considering putting out new guidelines and documents.

One challenge with worker exposure and protection from mold is that the tasks are not well defined as far as exposure. There are no clinical tests to determine time of exposures and no biological index to

look at to indicate when, where, and to what levels they were exposed. The size of contaminated area determines the level of containment but is not necessarily linked to potential hazards. Engineering controls and work practices are important yet they are not well studied.

They are considering updating the NYC Guidelines but are struggling with clearance sampling issues because it is difficult to show that a job has been properly completed. In addition, they are working to clarify and expand on the assessment of hidden mold.

Training and certification is currently not required by Federal, State, or Local governments although Texas is poised to implement requirements next year.

## MOLD TRAINING BY LABORERS
### Glenn Paulson
### NJ/NY Consortium/ UMDNJ School of Public Health

**Summary of Presentation**

In the absence of the originally scheduled speaker Al DiVita from L-AGC, Glenn Paulson discussed the development of the Laborers-AGC microbial remediation training curriculum and the rising demand for this training among their constituents. The Laborers-AGC originally developed a mold/mildew course 10 years ago. Based on growing demand, in early 2002, L-AGC and its Advisory Board created a special committee to develop a new and broader course, titled Microbial Remediation. This was peer reviewed by external organizations (NIEHS, EPA, NYCDOH, CDC, the LIUNA training network, and medical professionals). The course content included introduction to indoor air quality, health effects, work area sampling, hazard communication, PPE, work area preparation and remediation techniques, and decontamination. It was aimed to include government agency personnel as well as journeyworker and apprentice laborers, experienced asbestos and lead workers, contractor personnel from supervisor, and owners. The course was designed to be 24-hours, 10-hour classroom/10-hours hands-on, written test, and 4-hour demonstration test. The title of the course reflects a foundation for clean-up beyond mold. The recommended levels for PPE, decon, etc. are similar to asbestos.

**Discussion**
One question asked about the possibility of creating a health outcome chart that differentiates different fungi or mold and defines their individual health effects and severity of the effects. In addition, training sessions should begin with this information so that workers will understand the potential outcomes. Another question was asked about the potential of building this training into certification. The issue of Deutsche Bank 130 Liberty Street also came up. The presenters explained that the mold remediation done to the building had been thorough and that the introduction of Sheetrock and paper products had encouraged the growth of the mold when they became wet after flooding and exposure to the outdoor environment. Finally there was discussion about aggressive sampling and the conclusion was that there is no resolution on aggressive sampling, but there is more talk about using HEPA filters to ensure clean air is coming in to the containment area to help ensure post remediation sampling accurately reflects the remediation that was performed.